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## BOOKS PRESENTED TO THE LIBRARY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

R. **Accademia** d'Italia. Annuario 10-12. 1937-1940. Roma 1941. 614 p.

**Annuario** generale della Libia. Anno 9°. 1940-41. Tripoli, Unione coloniale italiana pubblicità ed informazioni, [1940]. 566 p.

**Annuario** ordinamenti e gerarchie d'Italia. Anno 1941. 8ª ed. Milano, Ravagnati, 1504 p.

**Bovolo,** M. L'agricoltore istruito; elementi di scienze, agraria, zootecnia e contabilità agraria per i corsi annuali e biennali di avviamento professionale. [3ª ed.]. Torino, Paravia, [1940]. IV, 316 p.

**Centro** di studi per le applicazioni della ingegneria all'agricoltura, Milano. Prove sulle macchine per l'attrezzamento elettro-meccanico di fattoria. Prima serie. Milano, 1939. 67 p. ([Pubblicazioni], 1. Fiera dell'agricoltura, Verona. Campo sperimentale. Sindacato nazionale fascista ingegneri).

**Chessa,** F. La produzione agraria e le forme della proprietà fondiaria; lezioni di economia e politica agraria corporativa. Torino, Giappichelli, [1941]. XIII, 413 p.

**Cillis,** Emanuele de. Trattato delle coltivazioni. [2ª ed.]. [Roma], « Agricoltura fascista », 1941. [v. 2]. Agronomia. 1941. 581 p.

**Convegno** per la creazione di un « Centro imperiale per lo studio del suolo », Firenze, 1939. Convegno per la creazione di un « Centro sperimentale per lo studio del suolo », Firenze, 25 giugno 1939-XVII. Firenze, Tip. editrice M. Ricci, 1939. 40 p. (Reale Accademia dei Georgofili, Firenze).

**Donath,** F. Das Erbhofrecht im Reichsgau Sudetenland, mit einer Einleitung und Anmerkungen zum Reichserbhofgesetz und der Erbhofrechtsverordnung. 2. erweiterte Aufl. Reichenberg, Reichsnährstand Verlags-Ges. m. b. H. Zweigniederlassung Sudeteland, 1940. 164 p.

**Federação** nacional des produtores de trigo, Lisboa. Relatório e contas de geréncia de 1939. Lisboa, Soc. tip. Lda., 1941. 70 p.

**Fédération** nationale des unions professionnelles agricoles de Belgique. 20ème, 21ème Congrès annuel. Bruxelles 19 et 20 février 1938, Liège 1 et 2 juillet 1939. Rapports. Bruxelles, Etablissement généraux et d'imprimérie, 1938-1939. 2 v.

**Federazione** nazionale fascista imprese assicuratrici. Annuario italiano delle imprese assicuratrici 1938-1940. Roma [1938-1940]. 2 v.

**Frattola,** I. Piante medicinali italiane e loro uso popolare. Roma, Signorelli, 1940. XIII, 252 p.

**Grünwoldt,** F. Répertoire international des périodiques forestiers; sylviculture, économie du bois, protection de la nature et chasse, d'après leur état au 1er janvier 1940. Berlin-Wannsee, Centre international de sylviculture, 1940. XIX, 205 p. (Silvae orbis; monographies du Centre international de sylviculture. nº 1).

**Gussoni,** L. La costruzione dei sili da foraggio; relazione presentata al Convegno per la conservazione dei foraggi nell'agricoltura italiana, Verona, 10-11 marzo 1940-XVIII. Milano, Centro di studi per le applicazioni dell'ingegneria all'agricoltura, 1940. 16 p. (Centro di studi per le applicazioni dell'ingegneria all'agricoltura, Milano. [Pubblicazioni], n. 2).

**Havermann,** H. Das Rheinische Geflügelherdbuch und seine Bedeutung für die Landesgeflügelzucht. Bonn, Leopold, 1940 XVI, 104 p. (Arbeiten aus der deutschen Tierzucht, Hft. 12. Aus dem Institut für Tierzucht und Molkereiwesen der Universität Bonn.).

**Hermann-Göring-**Akademie der Deutschen Forstwirtschaft. Mitteilungen. Hrsg. von Gustav Baader. 1. Jg. Bd. 1. 1941. Frankfurt am Main, Sauerländer, [1941]. 208 p.

**Jaspers,** J. Züchterische und wirtschaftliche Bedeutung der Hengsthaltung in den Landesbauernschaften Weser-Ems und Westfalen. Bonn, Leopold, 1940. XII, 151 p., cartogrs., tabs., diagrs, 24,5 cm. (Arbeiten aus der deutschen. Tierzucht, Hft. 13. Aus dem Institut für Tierzucht und Molkereiwesen der Universität Bonn.).

**Kellner,** O. Grundzüge der Futterungslehre. 9. völlig neubearb. Aufl. von G. Fingerling. Berlin, Parey, 1940. VIII, 268 p.

**Koch,** H. Ich Bauer bin das Volk. Berlin, P. Parey, [1940]. 87 p.

**Kramer,** E. L. De graanwet vaif 1835. Amsterdam, Paris, 1940. [8], 217 p. (Bijdragen voor economische geschiedenis onder leiding van Z. W. Sneller.) [The 1835 Cereals Act].

**Lanini,** P. La coltivazione del caffè. Torino, Paravia, [1940]. XII, 168 p. (Biblioteca agricola « Paravia »).

**Luncz,** G. La législation sur le reboisement des terrains incultes. Berlin-Wannsee, Centre international de sylviculture, 1940. V, 266 p. (Silvae orbis; monographies du Centre international de sylviculture. nº 2).

**Martinez** E. Marco A. Régimen de tierras en Colombia; antecedentes de la ley 200 de 1936 « sobre régimen de tierras » y decretos reglamentarios. Bogotá, Talleres gráficos Mundo al dia, 1939. 2 v. (Publicaciones del Ministerio de la economia nacional).

**Meyer,** K. Die ländliche Arbeitsverfassung im Westen und Süden des Reiches; Beiträge zur Landfluchtfrage, hrsg. und bearb. von Konrad Meyer und Klaus Thiede, unter Mitwirkung von Ugo Froese. Heidelberg, Vowinckel, 1941. XII, 409 p. (Die ländliche Arbeitsverfassung im Auftrage der Reichsarbeitsgemeischaft für Raumforschung).

**Mexique.** Comisión nacional de irrigación. La obra de la Comisión nacional de irrigación durante el régimen del Sr. Gral. de División Lázaro Cárdenas, 1934-1940. México, D. F., 1940. 2 v.

**Minderhoud,** G. Landbouw-coöperatie in Nederland. Groningen, Wolters, 1940. [4], 174 p.

**Sauer,** und F. Steffen. Der Einheitspachtvertrag. Berlin Reichsnährstand Verlags-Ges. m. b. H., 1940. 154 p.

**Svobida,** L. An empire of dust. Caldwell, Idaho, Caxton printers, 1940. 203 p.

**Vöchting,** F. Die Binnenkolonisation in Italien. Jena, Fischer, 1941. 27 p. (Kieler Vorträge gehalten im Institut für Weltwirtschaft an der Universität Kiel. 64).

**Zincone,** V. Ragionamenti sulla politica dei prezzi. Firenze, Cya, 1940. 113 p.

INTERNATIONAL BULLETIN
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## *DISCOVERIES AND CURRENT EVENTS* *

### ARGENTINE REPUBLIC.

### An Epiphytotic of Wheat Septoriosis †

Wheat septoriosis, although it has existed for many years in the Argentine Republic, has not until now been of any serious importance.

This disease was first reported through the intermediary of the ' División Granos ' of the ' Dirección de Agricultura '. This Division forwarded ample material obtained from the Pergamino Experiment Station, to the ' Dirección de Defensa Agrícola ' for identification.

The Phytopathological Division found two *Septoria* which were attacking the wheat, *viz.*, *S. tritici* and *S. nodorum*. The latter species causes the most damage.

The following are typical signs of the disease: the upper part of the ears show irregular patches which at first are small and a purplish-chestnut colour; as the patches become larger, the central part turns lighter and is surrounded by a purplish-chestnut ring; under the influence of the disease, the awns become lighter, resembling the colour of the awns of healthy and mature ears. Later, on both the patches and the awns, fructifications of the fungers are observed; these pycnidia correspond to the dark patches; they are small, black and, in general, arranged irregularly. When seriously infested, partly owing to the non-resistance of the variety, the ears are completely discoloured and bear pycnidia.

Node attack can easily be recognized by the appearance of small patches at first, which subsequently become larger and may cover the entire surface of the node; in colour they are violet-chestnut or dark chestnut, sunken, sometimes straw-coloured, with a reddish-chestnut ring. In some cases, pycnidium formation was observed. On the culm and ear peduncles, the patches are large and spreading (4 to 10 mm. long and 1 mm. wide), violet-chestnut in colour (various shades), which extend to the inter-node, and which may invade the entire perimeter of the culm, usually causing both the culm and the ear peduncle to turn an uneven olive-chestnut colour.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from the official correspondent of the Institute, Mr. JUAN B. MARCHIONATTO, Agricultural Engineer, Director of the ' Sanidad Vegetal ', Ministry of Agriculture, Buenos Aires, Argentine Republic.

The first symptom of the disease on the leaves is a small, yellow spot which increasing in size forms a light coloration in the centre bordered by a light chestnut and sometimes a violet-chestnut coloured ring. These patches, 3-5 mm. long and 1 ½ mm. wide, spread over the area between the nervures and are slightly sunken; when numerous, they may join and cover the entire surface of the lamina, which finally turns a pale reddish-yellow colour, like a dried leaf. On the patches and later over the entire lamina, fructifications are seen; at first, the pycnidia are placed irregularly, later, there is a tendency to form groups.

Subsequently, the disease was found on several native species of wheat from the Provinces of Buenos Aires, Santa Fé, Córdoba and Entre Ríos; it is frequently associated with smut.

The disease was also reported during 1939 in Uruguay; typical specimens were received from the ' Instituto Fitotécnico y Semillero Nacional La Estanzuela ' for identification.

The majority of varieties are susceptible to the disease; ' 38 M. A. ', ' Sin Valocho ' and ' Klein Acero ' suffer the most damage.

Investigations have shown that early wheats (sown in April-June) are the most seriously attacked; wheats sown later show a better resistance.

When seriously infested, no grain is formed; it follows that the yield of very susceptible varieties will fall considerably.

In agreement with the studies made abroad, it was found that the development of this disease depends on mild temperatures, but for heavy attacks to take place, abundant rainfall is essential; during the last season, conditions in Argentina Republic were ideal for the spread of the fungus.

As the parasite hibernates on the stubble, this should be destroyed in order to prevent further damage; straw and threshing trash should also be destroyed.

## ITALY.

### Sterility of Rice Panicles *

Panicle sterility is a disorder which often occurs in rice crops and has long been known. In Italy, this condition has been given different names according to locality and external aspect of the panicle which is not always definite, and in relation to the persistence of the empty caryopses on the rachis. In regard to its etiology, opinions vary considerably, although the trend of studies, chiefly cryptogamic and the success which has favoured this trend, have attributed this disorder to the complex disease known as ' brusone '. Attacks of *Piricularia oryzae* on the rachis, when the plant was in flower, in fact caused a characteristic sterility of the panicle (collar rot). This, however, was not the sole cause and repeated observations and agronomic proofs during the

* Communication from Prof. ELIO BALDACCI, Vice-Director of the Royal Italian Cryptogamic Laboratory, Pavia, transmitted by the Royal Station of Plant Pathology, Rome, official correspondent of the Institute.

last few years have shown that in reality it appears to be due to different causes, even if these are not always analyzable.

Among the causes reported of panicle sterility, is that of excess organic substances in the soil, opinion already formed and discussed by early Italian writers on rice such as Giovanni Biroli (1825) and, according to this author, Bevilacqua (1776). The more vigorous aspect of the plants under these conditions led to this disorder being classed among those due to excessive plant growth, according to the classification of diseases from the information available at that time.

Outside Italy and at the present time, some authors are of the same opinion. Attention has been called to the relation between rice sterility and the organic matter in the soil.

Observations made in certain localities of the Province of Pavia (Pieve Albignola) and soil analyses have confirmed this connexion. The plants examined were disseminated in rows or irregular zones, alternated with larger zones where vegetation and fructification were normal. The leaves of sterile plants are a darker green and are more erect than those of normal plants; the general aspect of the plant is more luxuriant; the sheaths adhere closely to the stem and are not easily separated even when the plants are withered. The panicle is neither open nor branched as in normal plants; in the spikelets it is often seen that the floral organs have not been fertilized or, if fertilization has taken place, the ovary is stunted, empty and reduced to one pellicle, black in colour. Occasionally, the stamens are found to be transformed into a blackish powder. The glumes are green or greenish-yellow on the outside, but never yellow as in normal plants. The roots are thicker, contain more water and branched but slightly.

It has been possible to isolate fairly frequently from the pulverulent content of the stamens and the pellicle of the ovary, a species of *Sarcina* with yellow colonies and a species still under study with reddish and yellow colonies belonging to Dematiaceœ. Less frequently, species of *Penicillium* and *Alternaria*. Under certain aspects, the disorder of empty caryopses resembles that which has already been described (*Atti Ist. Bot. Pavia*, 1936, Vol. VII), but from which it differs by the absence of coloured or black markings on the exterior of the glumes. The caryopses although sterile persist on the rachis and this characteristic distinguishes the disorder from similar manifestations known as ' crodatura ' and less frequently as ' colatura ', attributed to fall in temperature and hot winds.

Examination of soil samples gave the following results. Moisture content was slightly higher in soil where plants were abnormal (15.6 as against 14.2 per cent.). This is lower than the true figure as the samples were not put into glass receptacles and the soil was only examined after harvesting. The hydrogen ion concentration of the two samples did not show much difference ($pH = 7.1$ in healthy soil as against 6.8 in the other sample). The healthy soil sample contained 1.6 per thousand limestone, 259.1 per thousand clay and 740.3 per thousand sand. In the soil under abnormal plants, the limestone amounted to 2 per thousand, clay 275.2 per thousand, and sand 724.8 per thousand. The

organic matter stood at 28.5 per thousand in healthy soil and at 35.2 per thousand in the other soil sample. The total nitrogen percentage was 1.97 per thousand and 3.90 per thousand respectively. These figures show that there was an increase in humus content in the affected zone, both as regards chemical and physical analyses. The SO/N ratio is fairly low (9.2) as compared with that of the healthy soil (15) and also with the average value of about 19.73 reported by U. Pagliarini (*Ricerche Lab. Chim. Agr.*, Milano, 1927-30, Vol. IX) for similar soils in the Province of Pavia.

Investigations are still being carried out on the mechanism of this disorder which is evidently of a physiological nature. Possibly it is due to defective aeration of the soil (U. Brizi, 1905; W. H. Tisdale and J. H. Jenkins, 1921) as would be proved by modifications in the roots. Analagous observations have also been made on a non-parasitic ' brusone ' in the recently improved lands of the Ferrara zone (*Atti Ist. Bot. Pavia*, 1937, Vol. X). Another hypothesis is based on the presence of toxic substances due to the microbial processes in soils too rich in organic matter (F. J. F. Shaw, 1922).

Analyses of the microbial content of soils has shown that in ground where the plants are abnormal, the total number of bacteria in 1 g. of soil is less than half that of healthy soil (80,000 bacteria per gram of soil as against 180,000), while the number of fungi is equal (about 50,000 per gram of soil). It is probable that the two causes (defective soil aeration and reduced bacterial activity) are connected and exert a combined action.

It is possible that other factors intervene, for example, system of irrigation and quality of water (acidity of water, according to V. Peglion, 1938), although this does not seem to be the case in our instance. In the zone examined, the disorder such as has been described was reported in many so-called ' new ' rice-fields, established on the ' marcite ' during the first planting year. This fact, although empiric, still further confirms our point of view and will be rigorously tested in the future.

## THE NETHERLANDS.

### The Colorado Beetle (*Leptinotarsa decemlineata*) in 1940 *

Colorado beetle development in 1940 was less than in 1939.

The number of communes in which the insect was reported dropped to 54 (121 in 1939), attached foci to 44 (58 in 1939) and surface foci to 119 (271 in 1939).

The first adult was taken on May 22, the first larvae on June 18. Apparently meteorological conditions retarded development.

The number of treatments in the infested region was reduced to two (periods July 1-11 and July 18-27).

* Communication from the Phytopathological Service, Wageningen, Netherlands, official correspondent of the Institute.

Control operations were carried out as in the previous year by:—

(1) planting of trap-plants near attached foci and in districts suspected in 1939; close control.

In 5 cases out of 87, an adult was captured on these trap-plants.

(2) treatment of new foci as in 1939;

(3) crop control by farmers and supervisors;

(4) two treatments of all potato crops in the Southern Rhine district with a 0.4 per cent. calcium arsenate preparation;

(5) close control of all spraying operations by 120 supervisors.

During winter and spring, advance instruction on the control of this insect was given in all schools and also by means of lectures, brochures, pamphlets, films, etc.

## *LEGISLATIVE AND ADMINISTRATIVE MEASURES*

**Germany.** — Police Ordinance of March 4, 1941 prohibits the use of powdered quartz or preparations containing this powder in granaries.

The Minister of the Interior is authorized, in agreement with the Minister of Agriculture, to modify this provision. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1941, Bd. XIII, Nr. 3, S. 110).

*** A Circular dated March 8, 1941 lays down that by derogation of the Police Ordinance of March 4, 1941 (see above), quartz powder may be used for the control of the corn weevil [*Calandra granaria*] in stored grain up to September 30, 1941. For health reasons, however, the necessary precautions must be taken in order to prevent the quartz dust floating about. (*Ibid.*).

*** Decree No. 140 of March 9, 1941 relative to the control of grape phylloxera [*Dactylosphaera vitifolii*] prohibits the export beyond the frontiers of Lorrain and the import of vine plants with or without roots.

In laying out new vineyards, the use of vines other than those and resistant to phylloxera.

Persons wishing to establish vineyards must first make application to the police authorities.

A special authorization is required for nurseries engaged in the vine trade. They are also placed under official supervision. (*Ibid.*, S. 115-116).

*** By Ministerial Disposition dated March 11, 1941, based on the Decrees of March 28, 1929 and September 30, 1932 [see this *Bulletin*, 1929, No. 6, p. 83 and 1932, No. 12, p. 205] passed with a view to preventing the introduction of the carnation leaf roller [*Tortrix pronubana*], and on the Decree of July 1, 1929 for the purpose of preventing the introduction of plant diseases and pests in Eastern Marche and Sudetenland [see this *Bulletin*, 1940, No. 1, p. 6],

the import of carnations (cut flowers) from Italy, Denmark and the Netherlands is authorized up to April 30, 1941. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang April 1941, 21. Jahrg., Nr. 4, S. 32).

**Germany (Brunswick).** — By Decree dated March 21, 1941, the control of the beet leaf bug [*Piesma quadratum*] is made compulsory in Calvörde District.

The provisions of this Decree correspond to those adopted in Saxony by Decree of February 19, 1938 [see this *Bulletin*, 1938, No. 7, p. 151].

The administrative authorities are authorized to accord, on application by those concerned, derogations to these provisions. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1941, Bd. XIII, Nr. 3, S. 112-114).

**Germany (Eastern Marche).** — A Decree of February 12, 1941, relative to the control of black rust of wheat [*Puccinia graminis*] prescribes that in Tyrol and Vorarlberg, all berberry plants (*Berberis vulgaris*) growing at a distance less than 200 m. from the grain fields must be destroyed. In the protection zone, 200 m. wide, thus formed all berberry plants must be removed before April 1 each year. The planting or sowing of these plants is prohibited. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1941, Bd. XIII, Nr. 3, S. 115).

**Hungary.** — The Royal Legation of Hungary at Rome has forwarded to the International Institute of Agriculture a list of the signatures of the experts authorized in 1941 to sign the certificates issued by the official Phytosanitary Service of the Kingdom of Hungary.

**Italy.** — Ministerial Decree dated February 15, 1941 renders compulsory as from November 1, 1942 and at the expense of those concerned, in all the provinces of Northern and Central Italy, hydrocyanic acid gas fumigation of ornamental and fruit rosaceous nursey plant material.

Consignments of these Rosaceae (plants and parts of plants) from nurseries in the aforesaid provinces must be accompanied by an official certificate testifying that these products have been treated with hydrocyanic acid gas.

The nurserymen concerned should inform the official Phytopathological Observatory not later than December 31, 1941 of the measures adopted for carrying out fumigation operations on their products. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 10 maggio 1941, anno XIII, n. 13. pp. 713-715).

*** Ministerial Circular No. 25 dated February 21, 1941 indicates the measures to be employed in the control crop pests (mole-crickets, click-beetles, locusts, voles, etc.) with a view to reducing appreciably game poisoning. (*Ibid.*, 21 marzo 1941, n. 9, pp. 482-483).

*** The Ministerial Circular No. 35 of March 8, 1941 refers to the economy to be effected, in view of present circumstances, in the use of anticryptogamic preparations containing copper for the treatment of the vine. (*Ibid.*, 1-11 aprile 1941, nn. 10-11, pp. 571-572).

*** Ministerial Decree dated April 8, 1941 authorizes the hunting and capture of the wild rabbit [*Lepus* (*Oryctolagus*) *cuniculus*], declared an animal pest in the Province of Pavia. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 18 aprile 1941, anno 82°, n. 93, p. 1562).

*** Another Ministerial Decree of the same date authorizes the hunting and capture of the rook [*Corvus frugilegus*], hooded crow [*C. cornix*] and jackdaw [*C. monedula*], declared pests throughout the territory of Sicily. (*Ibid.*).

*** Ministerial Decree of April 9, 1941 authorizes the hunting and capture of the squirrel [*Sciurus vulgaris*], the weasel [*Mustela* (*Eumustela*) *vulgaris*], the magpie [*Pica pica*] and the jay [*Garrulus glandarius*], declared animal pests in the territory of the Province of Asti. (*Ibid.*).

*** The Royal Decree-law No. 230 of April 11, 1941 comprises measures for the purpose of assuring the production of citric acid required in the preparation of anticryptogamic products during the 1941 season. (*Ibid.*, 22 aprile 1941, n. 95, p. 1582).

*** Ministerial Decree of April 12, 1941 authorizes the hunting and capture of the wild rabbit, declared a pest in a certain part of the Province of Livorno. (*Ibid.*, 23 aprile 1941, n. 96, p. 1602).

*** Another Ministerial Decree of the same date authorizes the hunting and capture of kingfisher (*Alcedo hispida*), the night heron (*Nycticorax nycticorax*), the bittern (*Botaurus stellaris*), the little bittern (*Ardetta minuta*), and the common tern (*Sterna hirundo*) declared to be pests in the rice-growing and industrial fishing zones. (*Ibid.*).

## *RECENT BIBLIOGRAPHY*

AHLBERG, Olof. Besprutningsförsök mot plommonstekeln, Hoplocampa minuta Chr. *Statens växtskyddsanstalt, Meddelande N:r 32*, Stockholm 1940, 24 sid., 8 fig. Litteratur, sid. 23-24.
[In Swedish, with title also in German].

BABEL. Die Rebschädlingsbekämpfung 1939 in Württemberg. *Das Weinland*, Wien 1940, 12. Jahrg., Nr. 6, S. 70-71.
[*Plasmopara viticola, Clysia ambiguella*]

BAETA NEVES, C. M. Meios de luta contra a «Lymantria dispar L.», praga dos montados de sôbro. *Agros*, Lisboa, 1940, ano XXIII, nos 4 e 5, pags. 152-161. Bibliografia, pags. 160-161.

BAUR, Gg. Zwei gefährliche Ölfrucht-Schädlinge und ihre Bekämpfung. Der Rapsglanzkäfer (Meligethes aeneus Fbr.) und der Kohlschotenrüssler (Ceutorrhynchus assimilis Payk.) *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 18, S. [151]; Nr. 19, S. 160; Nr. 20, S. 171, Abb. 265-269.

BECKER, E. M. An effective ground squirrel trap. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, p. 152, fig. 1.
[Sciuridae].

BECKER, E. M. A three-year record of ground squirrel trapping. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 153-156.

BELING, R. W., UTSCH, W., und PFINGSTEN, E. Über die Ursachen der Unkrautbekämpfung durch Kalkstickstoff. *Bodenkunde und Pflanzenernährung*, Berlin 1940, 19. (64.) Bd., Heft 3/4, S. 201-218, Bilder 1-29. Schrifttum, S. 218.

BELLUE, Margaret K. Italian thistles, *Carduus tenuiflorus* Curt. and *C. pycnocephalus* L., not serious in cultivated lands. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 128-130, fig. 1.

BENEDEK, Tibor. Use of photomicrography in mycological research. *Chronica Botanica*, Waltham, Mass., U. S. A., 1941, Vol. 6, No. 9, pp. 201-202, 1 fig.

BERNAL CORREA, Alberto. Las enfermedades del arroz y su importancia económica en el Valle del Cauca. *Revista Facultad Nacional de Agronomía*, Medellín, Colombia, S. A., 1940, vol. III, nº 8-9, págs. 820 a 850. Bibliografía, págs. 849 y 850.
[*Helminthosporium oryzae*, *Cercospora* sp., *Piricularia* sp., chlorosis, 'quemazón' (a kind of wilting of physiological origin), 'espiga erecta' (straighthead of rice, a non-parasitic disorder)].

BERTERO, A. Le erbe infestanti e la loro distruzione. *Cronaca Agricola*, Torino, 1940, anno XLV, n. 17, p. 2.

BLANK, Lester M. The susceptibility of cotton seedlings to Phymatotrichum omnivorum. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1033-1041, fig. 1. Literature cited, p. 1041.

BLOCH, Robert. Wound healing in higher plants. *The Botanical Review*, Lancaster, Pa., 1941, Vol. 7, No. 2, pp. 110-146. Bibliography, pp. 138-146.

BLUNCK, H. Starkes Auftreten der Blattwespe *Caliroa annulipes* Kl. an Linden. *Anzeiger für Schädlingskunde*, Berlin 1940, XVI. Jahrg., Heft 10. S. 120, Abb. 1.

BOHN, G. W., and TUCKER, C. M. Studies on Fusarium wilt of the tomato. I. Immunity in *Lycopersicon pimpinellifolium* Mill. and its inheritance in hybrids. *University of Missouri, College of Agriculture, Agricultural Experiment Station, Research Bulletin 311*, Columbia, Missouri, 1940, 82 pp., 9 figs. Literature cited, pp. 67-72.
[*Fusarium lycopersici* (*F. bulbigenum* var. *lycopersici*)].

BONIFACIO, G. L'orobanche o lupa delle fave. *L'Italia Vinicola ed Agraria*, Casalmonferrato, 1940, anno XXX, n. 21, pp. 329-332.
[*Orobanche speciosa*].

BOVIEN, Prosper, og STAPEL, Chr. Om Derris og nogle Forsøg med Derrispraeparater til Bekaempelse af Skadedyr. 339. Beretning fra Statens Forsøgsvirksomhed i Plantekultur. *Tidsskrift for Planteavl*, København 1940, 45. Binds, 1. Haefte, Side [39]-83, Fig. 1-11. Litteratur, Side 83.
[In Danish, with summary in English].

BRAMBLE, William C., and HOLST, Eugene C. Fungi associated with Dendroctonus frontalis in killing shortleaf pines and their effect on conduction. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 881-899, figs. 1-5. Literature cited, p. 899.
[*Dendroctonus frontalis*, *Ceratostomella pini*, *C. ips*, *Dacryomyces* sp., *Zygosaccharomyces pini*, *Monilia* spp., *Trichoderma lignorum*, *Penicillium* spp. and bacteria on *Pinus echinata*].

BRAUN, [H.]. Das Unkraut und seine Bekämpfung. *Biologische Reichsanstalt für Land- und Forstwirtschaft, Flugblatt Nr. 23*, achte veränderte Auflage, Berlin 1940, 8 S.

BREMER, H. Beobachtungen quantitativer Art über das Aufreten von Schäden an Gemüsepflanzen, auf dem Versuchsfelde der Zweigstelle Aschersleben der Biologischen Reichsanstalt für Land- und Fortswirtschaft während der Jahre 1929 bis 1935 durchgeführt von H. Bremer, H. Hähne, A. Körting und R. Langenbuch, zusammengestellt und mitgeteilt von ——. 2. Mitteilung. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 8, S. 402-412, Abb. 1-4. Schriftennachweis, S. 412.
[*Puccinia asparagi, Platyparaea poeciloptera, Crioceris asparagi, C. duodecimpunctata, Psila rosae, Trioza viridula*].

BREMER, H. Beobachtungen quantitativer Art über das Auftreten von Schäden an Gemüsepflanzen auf dem Versuchsfelde der Zweigstelle Aschersleben der Biologischen Reichsanstalt für Land- und Forstwirtschaft während der Jahre 1929 bis 1935 durchgeführt von H. Bremer, H. Hähne, A. Körting und R. Langenbuch, zusammengestellt und mitgeteilt von — —. 3. Mitteilung, *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 12, S. [577]-595, Abb. 1-4. Schriftenverzeichnis, S. 594-595.
[*Ascochyta pisi, Uromyces pisi, Erysiphe polygoni, Sitona lineata, Grapholitha nigricana, E. cichoracearum, Cladosporium cucumerinum, Verticillium* sp.].

BREUER, Lothar. Eine Braunringfäule an Steckrüben. Inaugural-Dissertation. Lingen-Ems (Prov. Hannover), Buchdruckerei R. van Acken, 1940, 45 S., 9 Abb., 2 Darstellungen. Literaturverzeichnis, S. 35.
[A disease caused by a form of *Pseudomonas* on *Brassica napus* var. *napobrassica*].

BUCKSTEEG, Wilhelm. Untersuchungen über die Wirkung von Kältegraden auf Keim- und Infektionsfähigkeit von Konidien von Sclerotinia cinerea Schroet. und Sclerotinia fructigena Schroet. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Bd., Heft 10, S. 507-512. Literatur-Verzeichnis, S. 512.

CANDURA, G[iuseppe] S[alvatore]. Direttive per la difesa fitosanitaria dei frutteti. 1° I trattamenti razionali ai meli e ai peri nella Venezia Tridentina. Bolzano, Licinio Cappelli, 1940, 16 pp., 14 figg. (Pubblicazioni pratiche di Fitopatologia e Igiene, n. 3). L. 2.50.

CANDURA, G[iuseppe] S[alvatore]. Nuovi indirizzi per i trattamenti alle piante da frutto. Un sessennio di sperimentazione fitosanitaria nella Venezia Tridentina. *L'Italia Agricola*, Roma, 1940, anno 77, n. 8, pp. [573]-581, fig. 1-5.
[*Diaspis leperii, Aspidiotus ostraeformis, Aulacaspis pentagona, Yezabura malifoliae, Y. pyri, Doralis pomi, Brachycaudus persicae niger, Hyalopterus arundinis, Myzus cerasi, Psylla mali, P. crataegi, P. pyricola, P. pyri, Cydia pomonella, Anthonomus pomorum, A. cintus, Hoplocampa brevis, Rhagoletis cerasi, Perrisia mali* and *Paratetranychus pilosus*].

CASTAGNE, E. Teneur en pyréthrines des Pyrèthres congolais. *Bulletin Agricole du Congo Belge*, Bruxelles, 1940, vol. XXXI, nos 1-4, p. [97]-115, fig. 30-32.
[With title and summary also in Flemish:— 'Het gehalte aan pyrethrinen in Congoleesche Pyrethrum'].

CHIAPPELLI, R. Il governo dell'acqua nella lotta contro le erbe infeste. *Risicoltura*, Vercelli, 1940, anno XXX, n. 6, pp. 141-142.

CHRISTENSEN, Clyde M. Observations on Polyporus circinatus. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 957-963, figs. 1-4. Literature cited, p. 963.

CHRISTENSEN, J. J., and DAVIES, F. R. Variation in Helminthosporium sativum induced by a toxic substance produced by Bacillus mesentericus. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1017-1033, figs. 1-4. Literature cited, pp. 1032-1033.

CHRISTENSEN, J. J., and RODENHISER, H. A. Physiologic specialization and genetics of the smut fungi. *The Botanical Review*, Lancaster, Pa., 1940, Vol. 6, No. 8, pp. 389-425. Literature cited, pp. 420-425.
[Ustilaginales].

COCKERHAM, K. L. The sweetpotato weevil and how to control it. *U. S. Department of Agriculture, Leaflet No. 121*, Washington, D. C., 1940, 8 pp., 4 figs.
[*Cylas formicarius*].

COSTA, A. S., LIMA, A. R., e FORSTER, R. Necrose branca – Uma moléstia de virus do fumo (*Nicotiana tabacum* L.) e «fumo couve» como sintoma tardio. *Jornal de Agronomia*, Piracicaba, 1940, vol. 3, n. 1, pags. [1]-26, figs. 1-24. Bibliografia, pag. 23.
[With summary in English].

COSTANTINO, Giorgio. Un insetto parassita della *Feijoa sellowiana* Berg: il *Labidostomis taxicornis* Fabr. *Bollettino della Società dei Naturalisti in Napoli*, Napoli, 1940, vol. LI, pp. [41]-49, figg. I-III. Pubblicazioni consultate, p. 49.

COUTURIER, A. Nouvelles observations sur la vie larvaire de *Ceresa bubalus* Fab. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1941, tome XXVII[e], n° 4, p. 214-218.

COX, T. R. Relation of boron to heart rot in the sugar beet. *Journal of the American Society of Agronomy*, Geneva, New York, 1940, Vol. 32, No. 5, pp. 354-370, figs. 1-3. Literature cited, pp. 368-370.

CRAIGHEAD, F. C., and ST. GEORGE, R. A. Field observations on the dying of pines infested with the blue-stain fungus, Ceratostomella pini Münch. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 976-979.

CRIVELLI, G. I mezzi chimici per la disinfestazione dei cereali. *La Chimica*, Roma, 1940, anno XVI, n. 11, pp. [531]-535.

D. B. M. [MACKIE, D. B.]: Cherry fruit flies in California. (A preliminary Note). *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, p. 157.
[*Rhagoletis fausta*, and *R. cingulata* (?) on *Prunus emarginata*].

DA SILVA, S. Gonçalves. A antracnose do caquí. *O Biologico*, S. Paulo, 1940, ano VI, n[o] 5, pags. 125-126.
[*Colletotrichum gloeosporioides*].

DE LA HOZ, Cayetano. El problema bananero. Tratamiento de la Sigatoka. *Revista Agrícola*, Guatemala, 1940, vol. XVII, núm. 3, págs. 98 a 101.
[*Cercospora musae*].

DELONG, Dwight M. Studies of methods and materials for the control of the leafhopper Empoasca fabae as a bean pest. *United States Department of Agriculture, Technical Bulletin No. 740*, Washington, D. C., 1940, 64 pp., 25 figs. Literature cited, pp. 60-63.

DIMOCK, A. W. Importance of Verticillium as a pathogen of ornamental plants. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1054-1055.

DOWSON, W. J. On the systematics of Gram negative plant pathogens. *Chronica Botanica*, Waltham, Mass., U. S. A., 1941, Vol. 6, No. 9, pp. 198-199.

DYKSTRA, T. P., GOSS, R. W., [and] LEACH, J. G. Report of the Committee to Coordinate Research on New and Unusual Potato Diseases. *American Potato Journal*, Somerville and New Brunswick, New Jersey, 1940, Vol. 17, No. 4, pp. [81]-88, 1 map.
[*Phytomonas sepedonica*].

EBERT. Frostschäden und Obstbau. *Mitteilungen für die Landwirtschaft*, Berlin 1940, 55. Jahrg., Heft 33, S. 604-605.

EDMUNDSON, W. C., and SCHAAL, L. A. Potato breeding for Fusarium resistance. *American Potato Journal*, Somerville and New Brunswick, New Jersey, 1940, Vol. 17, No. 4, pp. 92-95, fig. 1.
[*Fusarium oxysporum*, *F. eumartii*].

EHRENHARDT, H. Der Einfluss von Temperatur und Feuchtigkeit auf die Entwicklung und Vermehrung der Blutlaus. *Arbeiten über physiologische und angewandte Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1940, Bd. 7, Nr. 2, S. 150-168. Schrifttum, S. 167-168.
[*Eriosoma lanigerum*].

EIDE, Carl J., and CHRISTENSEN, C. M. Wood decay in apple trees in Minnesota. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 936-944, figs. 1-2. Literature cited, pp. 943-944.
[Wood-rotting fungi isolated from decaying apple trees:— *Fomes applanatus, Trametes malicola, Polyporus versicolor, Thelephora* sp., *P. resinosus, Pholiota adiposa, Schizophyllum commune, Tr. hispida, P. adustus, Lenzites betulina*].

ENGELMANN. Rapskäfer-Fangkarre. *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 30, S. 271, Abb. 883-885.
[*Meligethes aeneus*].

FAES, H. L'emploi des bactéries sporogènes pour combattre les vers de la grappe et la pyrale. *La Terre Vaudoise*, Lausanne, 1940, XXXII^me^ année, n° 24, p. 208-209; n° 25, p. 311.
[*Clysia ambiguella, Polychrosis botrana, Sparganothis pilleriana*].

FERRARIS, Teodoro. Trattato di patologia e terapia vegetale ad uso delle scuole di agricoltura. Parassiti vegetali delle piante coltivate od utili. Quarta edizione completamente riveduta. Vol. II. Milano, Ulrico Hœpli, editore, 1941, XIX-756 pp., 273 figg., 2 tav. a col. Bibliografia, pp. 695-696, 818-821, 911-913, 1006-1009, 1043-1044, 1198-1204, 1241-1242. L. 85.
[This second volume completes the fourth edition of the well known Italian treatise which thus comprises 1386 text pages, 536 figures and 3 coloured plates. As in the first volume (see this *Bulletin*, 1938, No. 4, p. 90), the second has also been completely revised by the author while carefully selected illustrations have been added.
The diseases caused by Basidiomycetes and Deuteromycetes are described and details given on Algae and Lichens harmful to plants and the phanerogamic parasites.
A very comprehensive and up to date bibliography is appended to the various sections.
There follow:— (*a*) an analytical plan of the chief groups in which plant parasites are included to facilitate reference to each; (*b*) a guide for the easy determination of the principal diseases of cultivated or useful plants, caused by plant parasites, based mainly on external characteristics; (*c*) an alphabetical index of the authors cited; and (*d*) a detailed general index].

FEYTAUD, J., et DE LAPPARENT, P. La situation actuelle du marché des insecticides. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1941, tome XXVII^e^, n° 4, pp. 243-249.
[In France].

FISCHER, George W. Host specialization in the head smut of grasses, Ustilago bullata. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 991-1017, figs. 1-2. Literature cited, p. 1017.

FOEX, Et. La lutte contre le mildiou *Phytophthora infestans* (Mont.) de Bary de la pomme de terre. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1941, tome XXVII^e^, n° 4, pp. 219-229.

FONSECA, J. P., e AUTUORI, M. Processos de criação da "vespinha africana" parasita da "môsca do Mediterrâneo". *O Biologico*, S. Paulo, 1940, ano VI, n° 12, pags. [345]-351, figs. 1-8.
[*Tetrastichus giffardianus*, a parasite of *Ceratitis capitata*].

FRICKHINGER, H. W. Tierische Feinde der Rübenpflanzen. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 7/8, S. 65-67.

FRÖMMING, Ewald. Über das Verhalten unserer Nacktschnecken gegenüber den Blätter-und Löcherpilzen. *Angewandte Botanik*, Berlin 1940, Bd. XXII, Heft 2, S. [157]-167. Angeführte Schriften, S. 166-167.
[*Arion* spp., *Limax* spp., *Agriolimax agrestis, Milax marginatus, Deroceras reticulatum*].

GERSDORF, Erasmus. Ueber eine Maikäferbekämpfung in Bauernwäldern des Kreises Burgdorf/Hannover. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 11, S. 556-564, Abb. 1-2. Schriftenverzeichnis, S. 564.
[*Melolontha*].

GLÖCKNER, G. Zellschädigungen durch Teerdämpfe. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 7/8, S. 71.

HADORN, Ch. La cicadelle des rosiers (Typhlocyba rosae L.). *Revue Horticole Suisse*, Châtelaine-Genève, 1940, XIII[ème] année, nº 7, p. [145]-149, fig. 1-8.

HASEMAN, Leonard. The spring cankerworm and its control. *University of Missouri, College of Agriculture, Agricultural Experiment Station, Circular 205*, Columbia, Missouri, 1940, 4 pp., 2 figs.
[*Paleacrita vernata*].

HAYWARD, Kenneth J. El « herrumbre » o « tostado » de las frutas cítricas. *Revista Industrial y Agrícola de Tucumán*, Tucumán, 1940, tomo XXX, núms. 4-6, págs. 130 a 135, figs. 1-2. Bibliografía, pág. 135.
[*Phyllocoptruta* (*Phyllocoptes*) *oleivorus*].

HAYWARD, Kenneth J. Distribución de enemigos naturales de las moscas de las frutas para un control biológico. *Revista Industrial y Agrícola de Tucumán*, Tucumán, 1940, tomo XXX, núms. 4-6, págs. 136 a 138, 1 fig.

HAYWARD, Kenneth J. Contribución a la bibliografía sobre las moscas de las frutas. *Boletín de la Estación Experimental Agrícola de Tucumán*, Tucumán, 1940, nº 31, págs. [3] a 42.

HEINRICH, F. Bedeutet die Anwendung chlorathaltiger Unkrautbekämpfungsmittel eine Waldbrandgefahr? *Forstarchiv*, Hannover 1940, 16. Jahrg., Heft 14, S. [189]-194, Abb. 1-2. Schrifttum, S. 194.

HENRY, Berch W., and WAGNER, Elizabeth C. A rapid method of testing the effects of fungicides on fungi in culture. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1047-1049, fig. 1.

HERBST, W., und RUDLOFF, C. F. Der kleine Jahreskreislauf und seine Bedeutung für die Schorf-Epidemie bei den Obstgehölzen. *Forschungsdienst*, Berlin-Dahlem 1940, Bd. 10, Heft 1, S. 80-88, Abb. 1-6, Schrifttum, S. 86-88.
[*Venturia*].

HOCHAPFEL, H. Die Wurzelphloemnekrose der Tomate. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*, II. Abt., Jena 1940, 102. Bd., Nr. 12/14, S. 262-269, Abb. 1-4. Schrifttum, S. 269.
[*Colletotrichum atramentarium*].

HOOD, Clifford E. Life history and control of the imported willow leaf beetle. *United States Department of Agriculture, Circular No. 572*, Washington, D. C., 1940, 9 pp., 3 figs.
[*Plagiodera versicolora*].

HUYSKES, J. A. Physiologische ziekten van de suikerbiet, veroorzaakt door foutieve bevloeiing. *Instituut voor Phytopathologie, Laboratorium voor Mycologie en Aardappelonderzoek. Mededeeling 88*, Wageningen 1939, blz. [204]-223, pl. VIII-IX. Literatuur, blz. 222-223.
[In Dutch, with title and summary also in English:— ' Physiological diseases of the sugar beet, caused by improper irrigation '].

IPPISCH, h., Franz. Raíz de derris y otras plantas insecticidas útiles e importantes para su cultivo en Guatemala. *Revista Agrícola*, Guatemala, 1940, vol. XVII, núm. 5, págs. 165 a 172; núm. 10, págs. 320 a 322, 3 figs.

JACOB, A., GOTTWICK, R., und SCHULTE, E. Eine durch Chloride hervorgerufene Blattschädigung bei *Citrus*. *Angewandte Botanik*, Berlin 1940, Bd. XXII, Heft 4, S. [301]-308.

JANCKE. Der Birnknospenstecher und seine Bekämpfung. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 7/8, S. [61]-63, Abb. 1-5.
[*Anthonomus cinctus*].

JANNONE, Giuseppe. Osservazioni e rilievi su un singolare attacco di *Epilachna* (*Chnootriba*) *similis* ssp. *tellinii* Wse. (*Coleoptera, Coccinellidae*) alle colture di orzo e di frumento dell'Uollo Jeggiù (Scioa, A. O. I.). *L'Agricoltura Coloniale*, Firenze, 1941, anno XXXV, n. 1, pp. [1]-13, figg. 1-7; n. 2, pp. [63]-73, figg. 8-15.

JENKINS, Anna E. On the history of phytopathology in Brazil. *Chronica Botanica*, Waltham, Mass., U. S. A., 1941, Vol. 6, No. 10, pp. 224-226.

JOHANN, Helen. Occurrence of scolecospore-producing strains of Diplodia zeae in the United States. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 979-981, fig. 1.

JONES, Fred R. Bacterial wilt of alfalfa and its control. *United States Department of Agriculture, Circular No. 573*, Washington, D. C., 1940, 8 pp., 3 figs. [*Phytomonas insidiosa*].

KAMINSKI, Gerardo. Del suelo y sus abonos. *Revista del Instituto de Defensa del Café de Costa Rica*, San José, C. R., 1939, tomo VIII, no. 54, págs. 95 a 101, 1 fig.; 1940, tomo IX, no. 64-65, págs. 311-325.
[Investigations on the relation between the appearance of *Omphalia flavida* on coffee and the manifest deficiency of certain soil nutrients].

KEMPSKI, [Karl Emil], Die Insektiziden Pflanzen (Pyrethrum, Derris und Barbasco). Hamburg, Tropenverlag Fr. W. Thaden, 1940, 48 S., 18 Abb. Bibliographie, S. 37-42. (Die Tropenreihe. Praktische Führer durch die tropische Landwirtschaft, Nr. 45). 2.80 M.

KING, J. L., and PARKER, L. B. Colonization of Japanese beetle parasites in 1939. *Insect Pest Survey Bulletin*, [Washington, D. C.], 1940, Vol. 20, Supplement to No. 4, pp. 209-211, 2 maps. [Mimeographed].
[*Tiphia vernalis* and *T. popilliavora*, parasites of *Popillia japonica*].

KLEE, H. Der Prachtkäfer Agrilus communis Obenb. als Himbeerschädling. *Zeitschrift für Pflanzenkrankheiten* (*Pflanzenpathologie*) *und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 11, S. 564-565, Abb. 1.

KLEIN, Volker. La enfermedad del café en Oriente. *Revista Agrícola*, Guatemala, 1940, vol. XVII, núm. 10, pág. 319.
[A disease caused by a Mixomycete, not specified].

KNECHTEL, Wilhelm K., und MANOLACHE, Constantin. Neue Blattlausarten für Rumänien. *Académie Roumaine. Bulletin de la Section Scientifique*, Bucarest, 1940, tome XXIII[ème], nº 3, p. [162]-171, fig. 1-13.
[*Chaetophorus brachyunguis, Anuraphis nervii, Yezabura reaumuri, Rhopalosiphoninus rhinanthi, Amphorophora circumflexa, Aspidaphis adiuvans, Macrosiphonella sanborni*].

KNECHTEL, Wilhelm, und MANOLACHE, Constantin. Neue Blattlausarten für Rumänien. (Zweiter Beitrag). *Académie Roumaine. Bulletin de la Section Scientifique*, Bucarest, 1940, tome XXIII[ème], nº 5, p. [236]-247, fig. 1-23.
[*Tranaphis betulina, Periphyllus testudinatus, Pergandeida tamaricifoliae, Doralis newtoni, Capitophorus braggi, C. similis, Ovatus crataegarius, Amphorophora ribicola*].

KÖHLER, E. Über die mutationsauslösende Wirkung von Kartoffelpassagen auf verschiedene nekrotische Stämme des X-Virus. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskranheiten*, II. Abt., Jena 1940, 102. Bd., Nr. 4/6, S. 100-110, Abb. 1-4. Schriftenverzeichnis, S. 110.

KRAMER, M. Os mosaicos da roseira no Estado de S. Paulo. *O Biologico*, S. Paulo, 1940, ano VI, nº 12, pags. 365-368, est. IX-X.

KREUTZER, W. A., BODINE, E. W., and DURRELL, L. W. A sexual phenomenon exhibited by certain isolates of Phytophthora capsici. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 951-957, figs. 1-2. Literature cited, p. 957.

KREUTZER, W. A., BODINE, E. W., and DURRELL, L. W. Cucurbit diseases and rot of tomato fruit caused by Phytophthora capsici. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 972-976.

KRUG, H. P. Uma nova espécie de *Hypocrella*. *Jornal de Agronomia*, Piracicaba, 1940, vol. 3, n. 1, pags. [69]-82, figs. 1-12. Literatura citada, pag. 81. [With summary in English. — *Hypocrella fluminensis* sp nov on an undetermined species of *Aleyrodidae*. A Latin diagnosis of the new fungus is given].

LANGENBUCH, R. Der Salatsamenwickler (*Semasia conterminana* H.-S.), seine Biologie und Bekämpfung; zugleich ein Beitrag zur Bekämpfung der Lattichfliege (*Chortophila gnava* Meig.). *Arbeiten über physiologische und angewandte Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1940, Bd. 7, Nr. 2, S. 114-149, Fig. 1-2. Literaturverzeichnis, S. 148-149.

LARSSON, G. Bladlusene og deres Betydning som Virusspredere paa Beder og Kartofler. *Tidsskrift for Planteavl*, København 1940, 45. Binds, 1. Haefte, Side [97]-139. Litteratur, Side 138-139.

LEONHARDT, Hans. Klima, Witterung und Honigtau. Vorläufiger Bericht. *Anzeiger für Schädlingskunde*, Berlin 1940, XVI. Jahrg., Heft 8, S. [85]-90, Abb. 1-5.

LEONTOVITCH, C., et DE SAEGER, H. Notes au sujet de la culture du coton dans le Congo-Ubangi. III. – *Marasmius* sp., nouveau parasite du cotonnier dans le District du Congo-Ubangi. *Bulletin Agricole du Congo Belge*, Bruxelles, 1940, vol. XXXI, nos 1-4, p. 137-142, fig. 40-42.

LESNE, P. Quelques remarques sur le *Rhizopertha dominica* F. [Col. Bostrychidae]. *Revue française d'Entomologie*, Paris, 1940, tome VII, fasc. 4, p. [145]-151, fig. 1-14.

LEYVRAZ, H. Sulfatage direct. *La Terre Vaudoise*, Lausanne, 1940, XXXIIme année, no 26, p. 321; no 27, p. 328.

LIMA, Abelardo R., e COSTA, A. S. Variedades de fumo resistentes a « virá-cabeça » (1). *Revista de Agricultura*, Piracicaba, 1940, vol. XV, n. 3-4, pags. [133]-140, fig. 1. [With summary in English. — A virus disease].

LINDGREEN, D. L., and DICKSON, R. C. Fumigation of walnut trees in Ventura County. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 146-151, figs. 1-3. [Against *Aonidiella aurantii*].

LING, Lee. The histology of infection of susceptible and resistant selfed lines of rye by the rye smut fungus, Urocystis occulta. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 926-935, figs. 1-4. Literature cited, p. 935.

LINN, M. B. Cephalosporium leaf spot of two aroids. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 968-972, figs. 1-2. [*Cephalosporium cinnamomeum* sp. nov. on *Nephthytis afzelii* and *Syngonium podophyllum* var. *albolineatum*].

LIRO, J. I. Neue Eriophyiden aus Finnland. *Annales Zoologici Societatis Zoologicae-Botanicae Fennicae Vanamo*, Helsinki 1940, tom. 8, n:o 1, p. [1]-[68], Abb. 1-44. Literaturverzeichnis, p. [59]-67. [A description is given, *inter alia*, of 15 species new to science].

LOHWAG, Kurt. Untersuchungen über die Holzzerstörung durch Fomes Hartigii (Allesch.) Sacc. et Trav. und Fomes robustus Karst. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Bd., Heft 10, S. [481]-494, Abb. 1-7. Schriftenverzeichnis, S. 493-494.

LONGRÉE, Karla. Wilt of salsify, caused by Verticillium sp. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 981-983, fig. 1.

LYLE, Eldon W. Rose diseases. *Texas Agricultural Experiment Station, Circular No. 87*, College Station, Brazos County, Texas, 1940, 16 pp., 7 figs.

M. K. B. [BELLUE, Margaret K.]. Record of dodder (*Cuscuta subinclusa* Durand and Hilgard) on citrus in Orange Country. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, p. 145.

MAMELI CALVINO, Eva. La verticilliosi del garofano (Nota preliminare). *La Costa Azzurra Agricola Floreale*, Sanremo, 1940, anno XX, nn. 7-8, pp. 82-83. [*Verticillium cinerescens*].

MARANHÃO, Zilcar C. Terminologia entomológica. *Revista de Agricultura*, Piracicaba, 1940, vol. XV, n. 3-4, pags. [141]-161.

MARSHALL, G. Edward, CHILDERS, N. F., and BRODY, Howard W. Leafhoppers — They can reduce your crop. *American Fruit Grower*, Cleveland, Ohio, 1940, Vol. 60, No. 8, pp. 6-7, 11, 12-15.
[*Typhlocyba pomaria*, *Erythroneura* sp., *Empoasca fabae*].

MARTIN, Alan L., and ALTSTATT, G. E. Black kernel and white tip of rice. *Texas Agricultural Experiment Station, Bulletin No. 584*, College Station, Brazos County, Texas, 1940, 14 pp., 2 figs. Literature cited, p. 14.
[Black kernel is caused by the fungus *Curvularia lunata*; the white tip is similar to a condition reported in oats and wheat, clamed to be due to a deficiency of magnesium in the soil].

MAURER, H., und MEUCHE, A. Schadfrass von Rapsglanzkäferlarven an Raps und Rübsen. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Bd., Heft 10, S. 500-507, Abb. 1-12.
[*Meligethes aeneus*].

MAYER, Karl. Die Maikäferbekämpfung in Pommern im Jahre 1938. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Bd., Heft 10, S. 494-500, Abb. 1-2. Schrifttum, S. 500.
[*Melolontha*].

MEIER, K. Auftreten der Gelbsucht in Rebbergen des Kantons Baselland and angrenzenden solothurnischen Gebieten. *Schweizerische Zeitschrift für Obst- und Weinbau*, Wädenswil 1940, 49. Jahrg., Nr. 18, S. 319-327.

MEJIA FRANCO, Ramón. Mancha y seca de las hojas de la cebolla. *Revista Facultad Nacional de Agronomía*, Medellín, Colombia, S. A., 1940, año II, vol. II, núm. 6, págs. 609 a 614, 1 fig.
[*Macrosporium porri*, *Alternaria porri*].

MELIS, Antonio. La cecidomia delle foglie del pero (Perrisia pyri Bouchè). *R. Stazione di Entomologia agraria. Nota pratica N. 4*, Firenze, 1940, 11 pp., 4 figg., 2 tav.

MEREDITH, Clifford H. A quick method of isolating certain phycomycetous fungi from soil. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1055-1056.
[*Pythium* spp.].

MEYER, J. R. Prova facil para verificação da atividade dos timbós. *O Biologico*, São Paulo, 1940, ano VI, nº 11, pags. [319]-321.

MICHEL, Walter. Versuche zur Schaffung einer einfachen Methode für die Prüfung des Verhaltens verschiedener Kartoffelsorten gegen Schorf. *Angewandte Botanik*, Berlin 1940, Bd. XXII, Heft 2, S. [133]-146. Literaturverzeichnis, S. 145-146.

MICHELBACHER, A. E. Effect of Bathyplectes curculionis on the alfalfa-weevil population in lowland middle California. *Hilgardia*, Berkeley, California, 1940, Vol. 13, No. 3, pp. 81-99, figs. 1-7. Literature cited, p. 99.
[*Bathyplectes curculionis*, a larval parasite of *Hypera postica* .

MICHELBACHER, A. E., and LEIGHLY, John. The apparent climatic limitations of the alfalfa weevil in California. *Hilgardia*, Berkeley, California, 1940, Vol. 13, No. 3, pp. 103-139, figs. 1-11. Literature cited, pp. 138-139.
[*Hypera postica*].

MILBRATH, D. G. Probable virus disease of Pittosporum daphniphylloides. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 158-159, 1 fig.

MÜLLER, H. Bericht über Versuche mit „Zotrophan". *Die Gartenbauwissenschaft*, Berlin 1940, 15. Bd., 1. Heft, S. [28]-35.
[Results of investigations carried out on different horticultural plants with the above-mentioned parasiticide].

MÜLLER, K. O. Zur Bekämpfung der Kartoffel-Krautfäule durch Behandlung des Laubes mit Spritzbrühen. *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 21, S. [177]-178; Nr. 22, S. [187]-188.
[*Phytophthora infestans*].

NICOLAS, G[ustave], et AGGÉRY [Berthe]. Un plomb d'origine bactérienne chez Hedera rhombea. *Revue de Mycologie*, Paris, 1940, tome V (n. s.), fasc. 2-3, p. [70]-77.

NOLL, J., und HÄNDLER, E. Maikäferbekämpfung mit Stäubemitteln. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 9/10, S. 82-88, Abb. 1-8.
[*Melolontha*].

NOLTE, Hans-Werner. Kann der Puppenräuber (*Calosoma sycophanta* L.) eine Schädlingsplage beendigen? *Forstwissenschaftliches Centralblatt*, Berlin 1940, 62. Jahrg., Heft 6, S. 135-138. Literatur, S. 138.

NOLTE, Hans-Werner. Beiträge zur Biologie und Morphologie der Raubwanze Troilus luridus F. *Tharandter Forstliches Jahrbuch*, Berlin 1940, 91. Bd., Heft 4, S. 202-216, Abb. 1-3. Literaturverzeichnis, S. 215-216.

OORT, A. J. P. De verspreiding van den sporen van tarwestuifbrand (*Ustilago Tritici*) door de lucht. *Instituut voor Phytopathologie, Laboratorium voor Mycologie en Aardappelonderzoek. Mededeeling 91*, Wageningen 1940, blz. [1]-18, fig. 1-2, pl. I.
[In Dutch, with title and summary also in English:— 'The dissemination of the spores of loose smut of wheat (*Ustilago tritici*) through the air'].

OSTERWALDER, A. Vom Rost, Meltau und Sternrusstau der Rosen und Versuchen zu ihrer Bekämpfung. *Schweizer Garten*, Zürich 1940, Nr. 7, S. 205-212, Bilder 1-5.
[*Phragmidium subcorticium*, *Sphaerotheca pannosa* var. *rosae*, *Actinonema rosae*].

PARSCHE, Friedrich. Über die Kalkchlorose der Lupine. II. *Bodenkunde und Pflanzenernährung*, Berlin 1940, 19. (64.) Bd., Heft 1/2, S. 55-80. Schrifttum, S. 78-80.

PERSON, L. H., and MARTIN, W. J. Soil rot of sweet potatoes in Louisiana. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 913-926, figs. 1-6. Literature cited, pp. 925-926.
[*Actinomyces ipomoea* sp. nov.].

PIACCO, Romeo. L'allettamento del riso. *L'Italia Agricola*, Roma, 1940, anno 77, n. 8, pp. [565]-572, figg. 1-11.

PIPER, S. E., and JOHNSON, Ethelbert. Some studies of Peromyscus and other rodents in the San Bernardino Mountains of California 1937 to 1940. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 131-145, figs. 1-2.

PUZYR, Hans, unter Mitwirkung von BERSA-LEIDENTHAL, Tullius. Die zwei schädlichsten Käfer unseres heimischen Waldes. Der grosse braune Rüsselkäfer und der Buchdrucker. Kurze Anleitung zu deren Bekämpfung. Zweite erweiterte Auflage. Graz, Im Selbstverlag herausgegeben von der Gruppe Steiermark-Kärnten des Deutschen Forstvereines, 1940, 29 S., 18 Abb.
[*Hylobius abietis*, *Ips typographus*].

RADA, Germán García. Una nueva enfermedad del cafeto, "fusariosis". *Ministerio de Fomento. Dirección de Agricultura y Ganadería. Instituto de Altos Estudios Agrícolas del Perú. Estación Experimental Agrícola de La Molina. Boletín Nº 20*, Lima-Perú, 1940, 7 págs., 20 figs.
[*Fusarium* sp.].

RAWLINS, W. A. Potato insect investigations in 1939. *American Potato Journal*, Somerville and New Brunswick, 1940, Vol. 17, No. 6, pp. [137]-139. Literature cited, pp. 138-139.

RÉGNIER, Robert. Résultats de l'enquête et des récentes recherches sur les hannetons. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1941, tome XXVII[e], nº 5, p. 325-344.
[*Melolontha melolontha*, *M. hippocastani*, *Anoxia villosa*, *Polyphylla fullo*, *Amphimallon majalis*].

REINMUTH, E. Kartoffelschorf und Kalkdüngung. *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 29, S. 258-259.
[*Actinomyces*].

REINMUTH, E. Frassbilder des kleinen Aspenbockes. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 7/8, S. 63-65, Abb. 1-4.
[*Lamia* (*Saperda*) *populnea*].

ROBERTS, John W. The constriction disease of peach. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 963-968, fig. 1. Literature cited, p. 968.
[The pathogen is considered as a form of *Diaporthe eres*].

ROESER, Günter. Zur Kenntnis der Lebensweise der Gewächshausschabe *Pycnoscelus surinamensis* L. *Die Gartenbauwissenschaft*, Berlin 1940, 15. Bd., 2. Heft, S. [184]-225, Abb. 1-27. Literaturverzeichnis, S. 225.

ROGOJANU, V. Observaţiuni biologice asupra speciei Pyrameis (Vanessa) cardui L. *Viaţa Agricolă*, Bucureşti 1940, anul XXXI, nr. 9, pag. 276-279, fig. 1-4.

ROLAND, G. Bijdrage tot de kennis der virusziekten van de spinazie. *Instituut voor Phytopathologie, Laboratorium voor Mycologie en Aardappelonderzoek*, Wageningen 1939, blz. [260]-274, pl. XII-XIII. Literatuur, blz. 271.
[In Dutch, with title and summary also in French:— ' Contribution à l'étude des maladies à virus de l'épinard '].

ROLAND, G. Onderzoekingen verricht in 1938 over de vergelingsziekte, de zwarte viekken, de vorming van anthocyaan en de ontleding van zetmeel bij de biet. *Instituut voor Phytopathologie, Laboratorium voor Mycologie en Aardappelonderzoek. Mededeeling 89*, Wageningen 1939, blz. [181]-203, pl. VII A-VII B. Literatuur, blz. 199-201.
[In Dutch, with title and summary also in French:— ' Recherches effectuées en 1938 sur la jaunisse, les taches noires, la formation d'anthocyanine et l'analyse de l'amidon chez la betterave '. — Yellowing (a virus disease); black spot (*Phoma betae*, *Alternaria* sp.)].

RONCORONI, Ettore. Alcuni insetti. Varese, 1940, 93 pp., 28 tav. (Consorzio Ortofrutticoltura, Sezione del C. P. P. A., per la lotta contro il maggiolino nella provincia di Varese).
[*Leptinotarsa decemlineata*, *Melolontha vulgaris*, *Gryllotalpa vulgaris*, *Apterona crenulella*, *Dasychira pudibunda*, *Vanessa urticae*, *Forficula auricularia*, *Cetonia*, *Syrphus* spp., *Aphidius*, *Phaneroptera falcata*, *Acronycta aceris*, *Galerucella luteola*, *Crioceris lilii*, *Phalera bucephala*, *Smerinthus tiliae*, *Cucullia verbasci*, etc.].

RUSSO, Giuseppe. Il blastofago del pino (*Blastophagus* [*Myelophilus*] *piniperda* L. var. *rubripennis* Reitt.). *R. Laboratorio di Entomologia agraria presso la R. Facoltà di Agraria di Portici. Circolare n. 9*, Portici, 1941, 13 pp., 7 figg.

RYKER, T. C., and JODON, N. E. Inheritance of resistance to Cercospora oryzae in rice. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1041-1047, figs. 1-2. Literature cited, pp. 1046-1047.

SCHAERFFENBERG, Bruno. Bestimmungsschlüssel der landwirtschaftlich wichtigsten Drahtwürmer. *Anzeiger für Schädlingskunde*, Berlin 1940, XVI. Jahrg., Heft 8, S. 90-96, Abb. 1-18. Schrifttum, S. 95-96.
[Elateridae].

SCHELLENBERG, A. Gelbsüchtige Rebberge. *Schweizerische Zeitschrift für Obst- und Weinbau*, Wädenswil 1940, 49. Jahrg., Nr. 18, S. 309-312.

SCHMIDT, Herta. Die Brennfleckenkrankheit der Gurken. *Die kranke Pflanze*, Dresden 1940, 17. Jahrg., Heft 9/10, S. 89-91, 1 Abb.
[*Gloeosporium* (*Colletotrichum*) *lagenarium*].

SCHMIDT, Martin. Venturia inaequalis (Cooke) Aderhold. X. Zur Vererbung der morphologischen Merkmale auf künstlichem Substrat und der Aggressivität gegenüber bestimmten Wirten bei Einsporenherfünften des Apfelschorfpilzes. *Die Gartenbauwissenschaft*, Berlin 1940, 15. Bd., 1. Heft, S. [118]-139, Abb. 1-7. Literaturverzeichnis, S. 139.

SCHULTZ, E. S., CLARK, C. F., and STEVENSON, F. J. Resistance of potato to viruses A and X, components of mild mosaic. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 944-951. Literature cited, p. 951.

SCHWERDTFEGER, F. Vollumbruch als Massnahme der Engerlingsbekämpfung. *Zeitschrift für Pflanzenkrankheiten* (*Pflanzenpathologie*) *und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 8, S. 388-401, Abb. 1. Angeführte Literatur, S. 401.
[' Vollumbruch ' is the word given to the working of land intended for forest cultivation. — *Melolontha*].

SEVERIN, Henry H. P. Potato naturally infested with California aster yellows. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1049-1051, fig. 1.

SEYFARTH, W. Huflattich-Bekämpfung durch Luzerneanbau. *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 22, S. 189.
[*Tussilago farfara*].

SILVA, Pedrito. Novos hospedeiros do Macropophora accentifer Oliv. na Baía. *Chacaras e Quintais*, São Paulo, 1940, ano 31, vol. 62, nº 1, pags. [58]-[59], 1 fig. Bibliografia, pag. [59].
[*Aleurites moluccana* and *A. trisperma*].

SILVESTRI, F[ilippo]. Distribuzione geografica del *Micromalthus debilis* Le Conte (Coleoptera Micromalthidae). *Bollettino della Società Entomologica Italiana*, Genova, 1941, vol. LXXIII, n. 1, pp. 1-2.
[A beetle attacking the wood of dead trees and also wrought wood].

SKAPTASON, J. B., and BLODGETT, F. M. Factorial studies on potato dusting materials. *American Potato Journal*, Somerville and New Brunswick, New Jersey, 1941, Vol. 18, No. 1, pp. [1]-9. Literature cited, p. 9.

SKAPTASON, J. B., PETERSON, L. C., and BLODGETT, F. M. The copper content of Long Island soils in relation to tuber rot of potatoes caused by *Phytophthora infestans* (Mont.) de Bary. *American Potato Journal*, Somerville and New Brunswick, New Jersey, 1940, Vol. 17, No. 4, pp. 88-92. Literature cited, p. 92.

SMITH, Ralph H. Common names of the scale insect *Saissetia nigra* (Nietn.). *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 125-127, fig. 1. Literature cited, p. 127.

SMUCKER, S. J. Apparent recovery of American elms inoculated with Ceratostomella ulmi. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1052-1054.
[*Ulmus americana* and *Ceratostomella ulmi*].

SNELLING, Ralph O., BLANCHARD, Ralph A., and BIGGER, John H. Resistance of corn strains to the leaf aphid, *Aphis maidis* Fitch. *Journal of the American Society of Agronomy*, Geneva, New York, 1940, Vol. 32, No. 5, pp. 371-381, fig. 1. Literature cited, pp. 380-381.

SPRINGENSGUTH, W. Der Moosknopfkäfer, ein wenig beachteter Rübenschädling. *Deutsche Landwirtschaftliche Presse*, Berlin 1940, 67. Jahrg., Nr. 29, S. 261, Abb. 369 u. 371.
[*Atomaria linearis*].

STANLEY, W. M. Some chemical, medical and phylosophical aspects of viruses. *Science*, Lancaster, Pa., 1941, New Series, Vol. 93, No. 2407, pp. 145-151.

STOFFELS, E.-H.-J. La culture du pyrèthre au Kivu. *Bulletin Agricole du Congo Belge*, Bruxelles, 1940, vol. XXXI, nos 1-4, pp. [82]-96, fig. 25-29.
[With title and summary also in Flemish:— 'Pyrethrumteelt in Kivu'. — *Chrysanthemum cinerariaefolium*].

STELLWAAG, F. Die Einwirkung schwankender Freilandtemperaturen auf Insekten. *Anzeiger für Schädlingskunde*, Berlin 1940, XVI. Jahrg., Heft 10, S. [109]-113, Abb. 1-2. Schrifttum, S. 113.

STITT, Loyd L. Three species of the genus Lygus and their relation to alfalfa seed production in southern Arizona and California. *United States Department of Agriculture, Technical Bulletin No. 741*, Washington, D. C., 1940, 20 pp., 2 figs. Literature cited, p. 19.
[*Lygus hesperus, L. elisus, L. pratensis oblineatus*].

SPEYER, W. Beiträge zur Biologie des Kleinen Frostspanners (*Cheimatobia brumata* L.). VII. und VIII Mitteilung. *Arbeiten über physiologischen und angewandte Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1940, Bd. 7, Nr. 2, S. [89]-113, Fig. 1-11, Taf. 4-7. Schriftenverzeichnis, S. 103 u. 113.

STEINWEDEN, John B. Citrus thrips damage on Chinese photinia. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, p. 151.
[*Scirtothrips citri* on *Photinia serrulata nova*].

STOUT, Gilbert L. A case of dodder (*Cuscuta subinclusa* Durand and Hilgard) on Valencia orange (*Citrus sinensis* Osbeck) in southern California. *State of California, Department of Agriculture, Bulletin*, Sacramento, California, 1940, Vol. XXIX, No. 3, pp. 121-124, figs. 1-2. Literature cited, p. 124.

STRAIB, W. Physiologische Untersuchungen über Puccinia glumarum. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*, II. Abt., Jena 1940, 102. Bd., Nr. 7/9, S. 154-188, Abb. 1-5; Nr. 10/11, S. 214-239, Abb. 6-10. Schriftenverzeichnis, S. 238-239.
[*Puccinia triticina, P. dispersa, P. simplex, P. graminis, P. coronata, P. glumarum*].

STRAIB, W. Ueber die Interferenzwirkung von Luftfeuchtigkeit und Temperatur auf das Zustandekommen der Infektion mit Uredosporen verschiedener Getreiderostarten. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 11, S. [529]-552. Schriftenverzeichnis, S. 551-552.

STRONG, Forrest C., and CATION, Donald. Control of cedar rust with sodium dinitrocresylate. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, p. 983. [*Gymnosporangium* spp.].

SVÄRDSON, G. Studier och försök rörande vetemyggorna: Contarinia tritici Kirby och Clinodiplosis mosellana Géh., samt deras bekämpande. VII. Vetemyggornas vindspridning. *Statens Växtskyddsanstalt, Meddelande N:r 31*, Stockholm 1940, 36 sid., 16 fig. Litteratur, sid. 35-36.
[With summary also in German].

TARCHI, A[ngelo]. Nuovi parassiticidi germicidi e stimolanti della germinazione e della emissione di radici. *La Chimica*, Roma, 1940, anno XVI, n. 11, pp. [509]-518.

TER HAZEBORG, A., MAURER, H., und MEUCHE, A. Entstehung gekrümmter Schoten bei Raps und Rübsen durch Rapsglanzkäferfrass. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50 Jahrg., Heft 11, S. 552-555, Abb. 1-5.
[*Meligethes aeneus*].

TERVET, Ian W. Problems in the determination of physiologic races of Ustilago avenae and U. levis. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 11, pp. 900-913, figs. 1-4. Literature cited, pp. 912-913.

THIEM, H. Beiträge zum Maikäfer-und Engerlingsbekämpfung. *Forschungsdienst*, Berlin-Dahlem 1940, Bd. 10, Heft 1, S. 67-80.
[*Melolontha*].

VALLEAU, W. D. The binomial system of nomenclature for plant viruses. *Chronica Botanica*, Waltham, Mass., U. S. A., 1941, Vol. 6, No. 10, pp. 223-224. Literature cited, p. 224.

VELASCO LLANOS, Vicente. Observaciones entomológicas sobre el cultivo de algodón en el Departamento del Atlántico. *Revista Facultad Nacional de Agronomía*, Medellín, Colombia, S. A., 1940, año II, vol. II, núm. 6, págs. 593 a 608.
[*Platyedra gossypiella, Sacadodes pyralis, Alabama argillacea, Dysdercus* sp., *Aphis gossypii, Laphygma frugiperda, Epitragus aurulentus, Eriophyes gossypii*, etc.].

VIÉGAS, A. P., Germinação dos clamidosporos de *Cintractia leucoderma* (Berkeley) P. Hennings. *Jornal de Agronomia*, Piracicaba, 1940, vol. 3, n. 1, pags. [33]-42, figs. 1-12. Literatura citada, pag. 40.

VIENNOT-BOURGIN, G. Botrytis cinerea, parasite des cultures de lin en France. (Note préliminaire). *Revue de Mycologie*, Paris, 1940, tome V (n. s.), fasc. 2-3, p. [55]-63, fig. 1-2, pl. II. Bibliographie, p. 63.

VIVANI, Walter. La lotta contro i parassiti dei pioppi. *Il Coltivatore e Giornale Vinicolo Italiano*, Casale Monf., 1940, anno 86°, n. 14, pp. 164-165, 1 fig.

WEIDNER, Herbert. Eine an Kakaofrüchten schädliche Pyralide. *Anzeiger für Schädlingskunde*, Berlin 1940, XVI. Jahrg., Heft 9, S. 101-104, Abb. 1-5. Schrifttum, S. 103-104.
[*Mussidia nigrivenella* ?].

WEIDNER, Herbert. Ueber Phosphorus gabonator Thoms. (Col., Ceramb., Lamiin.) und Eulophus myrmeleon Feld. u. Rog. (Lep., Cossidae), zwei Schädlinge des Kakaobaums in Kamerun. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 9, S. [433]-444, Abb. 1-8. Schrifttumverzeichnis, S. 443-444.

WEINDLING, Richard. Sodium hypochlorite shows promise as a seed treatment. *Phytopathology*, Lancaster, Pa., 1940, Vol. 30, No. 12, pp. 1051-1052, fig. 1.

WEISS, Freeman. Powdery mildew of ornamental plants. *U. S. Department of Agriculture, Leaflet No. 197*, Washinghton, D. C., 1940, 4 pp., 1 fig.
[*Erysiphe* spp., *Microsphaera alni*, *Phyllactinia corylea*, *Podosphaera oxyacanthae*, *Sphaerotheca pannosa*, *Uncinula* spp.].

WELLBORN, Vera. Extenuación perniciosa en el cafeto (paloteo pernicioso, anemia perniciosa, die back). *El Café de El Salvador*, San Salvador, El Salvador, C. A., 1940, vol. X, núm. 120, págs. 817 a 823, 3 figs.
[The true cause of this disorder is nutrient deficiency].

WELLBORN, Vera. Nuevas observaciones sobre enfermedades e insectos dañinos del café. *Revista del Instituto de Defensa del Café de Costa Rica*, San José, C. R., 1940, tomo IX, no. 64-65, págs. 336 a 339.
[*Fomes lamaoensis*, *Megalopyge*, Tortricidae, *Idiarthron*].

WENZEL, Hans. Zur Technik der Bekämpfung der Rüben-Cercospora. Ist die Bespritzung der Blattunterseite notwendig? *Wiener Landwirtschaftliche Zeitung*, Wien 1940, 90. Jahrg., Nr. 20, S. [119]-120.
[*Cercospora beticola*].

WIEMER, Hans. Beiträge zur Rhizoctonia - und Zopfia - Krankheit an Spargel. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 9, S. 459-472, Abb. 1-8. Verzeichnis der benutzten Literatur, S. 471-472.
[*Rhizoctonia crocorum*, *Zopfia rhizophila*].

WIESMANN, R. Die Obstbaumspinnmilbe, Paratetranychus pilosus, ihre Lebensweise und Versuche zu ihrer Bekämpfung. *Schweizerische Zeitschrift für Obst- und Weinbau*, Wädenswil 1940, 49. Jahrg., Nr. 18, S. 327-336, 7 Abb.

WILLE, Johannes E. Uebersicht der landwirtschaftlich wichtigen Insekten von Peru (Südamerika). *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 8, S. [369]-388.

WINGARD, S. A. The nature of disease resistance in plants. I. *The Botanical Review*, Lancaster, Pa., 1941, Vol. 7, No. 2, pp. 59-109. References, pp. 97-109.
[A review of the literature on this subject].

WINTER, A. Gerhard. Die Infektion des Weizens durch Ophiobolus graminis als Funktion der Temperatur. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Jahrg., Heft 9, S. 444-459, 6 Abb. Schrifttum, S. 459.

WINTER, A. Gerhard. Virusartige Erkrankungen der Roten Johannisbeeren (Ribes rubrum). *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1940, 50. Bd., Heft 10, S. 512-520, Abb. 1-7. Schrifttumsverzeichnis, S. 520.

WOLLENWEBER, H. W., und RICHTER, H. Der Krebs der Obstbäume und seine Bekämpfung. *Biologische Reichsanstalt für Land- und Forstwirtschaft. Flugblatt Nr. 17*, 8. Auflage, Berlin 1940, 4 S., 1 Abb. 1 farb. Taf.
[*Nectria galligena*].

YOUNG, P. A., HARRISON, A. L., and ALTSTATT, G. E. Common diseases of tomatoes. *Texas Agricultural Experiment Station, Circular No. 86*, Brazos County, Texas, 1940, 32 pp., 16 figs.

ZACHER, Friedrich. Die Samenmotte Hofmannophila pseudospretella Stt. ein weit verbreiteter, aber wenig bekannter Schädling. *Mitteilungen der Gesellschaft für Vorratschutz E. V., Berlin-Steglitz*, Berlin 1941, 17. Jahrg., Nr. 2, S. [17]-22, Abb. 1-2. Literatur-Verzeichnis, S. 22.

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